Translation

PATENT COOPERATION TREATY

PCT/JP2003/008821

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference KP96	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/008821	International filing date (*day/month/year*) 10 July 2003 (10.07.2003)	Priority date (*day/month/year*) 11 July 2002 (11.07.2002)
International Patent Classification (IPC) or national classification and IPC B32B 27/36		
Applicant MITSUBISHI PLASTICS, INC.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

   a. ☒ *(sent to the applicant and to the International Bureau)* a total of 2 sheets, as follows:

      ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

   ☒ Box No. I Basis of the report
   ☐ Box No. II Priority
   ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
   ☐ Box No. IV Lack of unity of invention
   ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
   ☐ Box No. VI Certain documents cited
   ☐ Box No. VII Certain defects in the international application
   ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
16 April 2004 (16.04.2004)	30 November 2004 (30.11.2004)
Name and mailing address of the IPEA/JP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP2003/008821

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

☐ international search (under Rules 12.3 and 23.1(b))

☐ publication of the international application (under Rule 12.4)

☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☐ The international application as originally filed/furnished

☒ the description:

pages 1-9, 11-14, as originally filed/furnished

pages* 10 received by this Authority on 21 September 2004 (21.09.2004)

pages* _____ received by this Authority on _____

☒ the claims:

pages _____, as originally filed/furnished

pages* _____, as amended (together with any statement) under Article 19

pages* 2-5, 7 received by this Authority on 21 September 2004 (21.09.2004)

pages* _____ received by this Authority on _____

☐ the drawings:

pages _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☒ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☒ the claims, Nos. 1, 6

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP03/08821

Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	2-5, 7	YES
	Claims		NO
Inventive step (IS)	Claims	2-5, 7	YES
	Claims		NO
Industrial applicability (IA)	Claims	2-5, 7	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document 1: JP, 8-323946, A (Mitsubishi Plastics, Inc.), 10 December, 1996 (10.12.96), the claims, paragraphs [0025], [0028], [0032], [0051], [0052], [0067], [0071], Example 7 (Family: none)
Document 2: EP, 1008629, A (Daicel Chemical Industries, Ltd.), 14 June, 2000 (14.06.00), full text, & JP, 2000-238194, A, full text, especially Examples 3 and 5
Document 3: EP, 514137, A (Mitsui Toatsu Chemicals, Inc., presently named Mitsui Chemicals, Inc.), 19 November, 1992 (19.11.92), full text, especially Example 3, & JP, 5-38784, A

The subject matters of claims 2-5 and 7 appear to be novel and to involve an inventive step in view of the documents cited in the ISR.

Document 1 describes a biodegradable multi-layer plastic film having a polylactic acid-based resin film and a biodegradable plastic film as at least one of the outermost layers, and also describes that (1) an unstretched sheet with a three-layer structure using polylactic acid of L form/D form = 98/2 as the inner layer and an aliphatic polyester {Bionole 1010 (Tm = 114°C) produced by Showa Highpolymer Co., Ltd.} as both the outer layers is produced by coextrusion (Example 7), and (2) the unstretched sheet is extruded and subsequently quickly cooled. Document 1 does not describe the crystallinity of the polylactic acid-based resin, but considering that the said sheet is unstretched and that extrusion is followed by quick cooling, it is considered that the crystallinity of the polylactic acid-based resin in the sheet is in the specified range. Furthermore, since the aliphatic polyester described in document 1 is the same as that exemplified in the present application, it is considered that its Tg is 0°C or lower.

Document 2 describes a film in which a biodegradable resin layer (2) different in kind from a biodegradable resin layer (1) is laminated on the said biodegradable resin layer (1), and also describes that the biodegradable resin layer (2) is composed of a resin selected from choices including a polylactic acid-based resin.

Document 3 (Example 3) describes that (1) a laminate film is produced by laminating a polylactic acid-based film and a regenerated cellulose film, and (2) a copolymer of L-lactic acid : D-lactic acid = 9 : 1 is used.

However, documents 1-3 neither describe nor suggest that a laminate film is thermally molded at a temperature higher than the melting point of a biodegradable resin other than a polylactic acid-based resin.